ABSTRACT OF THE DISCLOSURE

A linear motor (M) has a linear motor movable
element (10) made up from a group of permanent magnets
5   (1a - 1d), and a linear motor stator (20) made up from
two electromagnetic coils (2a, 2b). The polarization
directions of the permanent magnets (1a, 1c) of the
linear motor movable element (10) are opposite to each
other in a y-axis direction perpendicular to an x-axis
10   direction which is a moving direction. The permanent
magnets (1b, 1d) with the same rectangular
parallelepiped shape and a polarization direction
rotated from each other through 90° are arrayed between
the permanent magnets (1a, 1c). An ideal sine wave
15   magnetic field is thus formed.